

What is Claimed is:

1. A device for creating a sample receptacle for retaining a sample to be subject to spectrochemical analysis, said device used in conjunction with a flexible sheet of material having peripheral edges, wherein said device comprises:

Sub a1
a tubular body having a tapered exterior wall and at least one open end; and

a generally annular collar being disposed around said tubular body with an interference fit, whereby said collar engages said sheet of material disposed across said open end of said tubular body, covering said peripheral edges of said sheet of material and pulling said sheet of material taut over said open end.

2. The device according to Claim 1, further including an interlocking means for locking said annular collar at a set position on said tubular body.

3. The device according to Claim 1, wherein said annular collar includes a tapered inside wall, said inside wall being tapered at an angle which is supplemented to said tapered exterior wall of said tubular body.

Sub a2
4. The device according to Claim 1, wherein said tubular body has a predetermined length, wherein said annular collar engages said predetermined length of said tapered exterior wall of said tubular body.

5. The device according to Claim 3, wherein said annular collar has a predetermined length and wherein said interference fit between said tubular body and said annular collar occurs across said length of said inside tapered wall.

6. The device according to Claim 3, wherein said flexible sheet of material is compressed between said tapered exterior wall of said tubular body and said tapered interior wall of said annular collar.

7. The device according to Claim 1, wherein said flexible sheet of material forms a seal over said open end of said tubular body, wherein said seal is impermeable to said sample contained in said tubular body.

8. The device of Claim 2, wherein said annular collar includes an interior wall, and said interlocking means includes:

a semicircular groove located on said tapered exterior wall of said tubular body proximate said open end; and

an inwardly directed semicircular protrusion located on said interior wall of said annular collar, wherein said semicircular protrusion engages said circumferential groove when said annular collar and said cell body are assembled.

9. The device of Claim 4, wherein said open end of said cell body and said annular collar have rounded edges, whereby said rounded edges prevent tearing of said

sheet of material when said annular collar and said tubular body are assembled.

10. The device according to Claim 1, wherein said tubular body includes a closed end which is opposite said open end.

11. The device according to Claim 10, wherein said tubular body includes a continuous peripheral flange located about said exterior tapered wall, said peripheral flange extending above said closed end in order to provide an overflow reservoir.

12. The device of Claim 11, wherein said closed end includes a venting means for maintaining pressure equalization during said spectrochemical analysis.

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a4
13. The device of Claim 1, wherein said tubular body includes a second open end, wherein said second open end of said cell body permits introduction of said sample into said tubular body through said second open end.

14. The device of Claim 1, wherein said annular collar has a first end and a second end, wherein said first end of said annular collar further includes an outwardly directed flange to facilitate alignment of said sample cup during said spectrochemical analysis.

15. The device of Claim 1, wherein said annular collar and said tubular body are fabricated from polyethylene.

16. A method of forming a receptacle used to subject a sample to spectrochemical analysis, said method comprising the steps of:

providing a tubular body having a tapered outside wall, said cell body having a first end and a second end wherein at least said first end is open,

placing a sheet of thin film over said first end of said tubular body;

passing an annular collar over said tubular body at said first end so that said annular collar contacts said thin film, said annular collar having an inside tapered wall which conforms to said outside tapered wall of said tubular body; and

advancing said annular collar toward said second end of said tubular body thereby drawing said thin film over said first end and down said tapered outside wall of said tubular body whereby said sheet of thin film is pulled uniformly taut over said first end of said tubular body, and whereby said thin film is entrapped between said tapered inside wall of said annular collar and said tapered outside wall of said tubular body in order that said thin film does not extend beyond said annular collar.

17. The method of Claim 16, wherein said cell body contains a semicircular groove on said outside tapered wall and said annular collar contains an inwardly directed semicircular protrusion which coacts with said circumferential groove, said method further including the step of:

locking said annular collar to said cell body so that said semicircular protrusion snaps into said semicircular groove when said annular collar and said tubular body are compressed together, whereby an impermeable seal is formed over said first end of said tubular body by said thin film.

18. The method of Claim 16, wherein said second end of said cell body includes a closed end, further including the step of:

introducing said sample into said tubular body prior to said step of placing said sheet of thin film material over said first end of said tubular body in order that said sample may reside in said tubular body before said first end is covered.

19. The method according to Claim 16, wherein said second end of said cell body is open, further including the step of:

introducing said sample into said second end of said tubular body after said step of locking said annular collar to said tubular body, said first end remaining open in order to vent said sample.

20. The method of Claim 18, wherein said closed end of said tubular body includes a venting provision, further including the step of:

venting said cell body in order to achieve pressure equalization between said sample cup and the spectrochemical analysis environment.

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Add F'